

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

Claim 1 (Currently amended): Squeeze protecting device arranged to detect the presence of an object in a protection area comprising a housing and an antenna unit connected to a detecting circuitunit, which circuit is arranged to, via said antenna unit, detect capacitive variations in an electric- or electro-magnetic field at said antenna unit, characterised in that said detecting circuit comprises

~~means connected to said antenna unit arranged to detect a variation of the pressure at said antenna unit caused by compressive force applied at said housing,~~

a signal generator that provides a signal to the antenna unit that generates the generating means for generating an electric or electro-magnetic field at the antenna unit;

balancing means for maintaining the generated electric or electromagnetic field at the antenna unit in a balanced condition;

filter means for preventing the detecting circuitunit from being affected by variations in temperature and moisture; and

detecting means for detecting small variations in the generated electric or electromagnetic field at the antenna unit and/or a variation of pressure at said antenna unit caused by a compressive force applied to said housing, and indication means for indicating that a variation in the electric or electromagnetic field at the antenna unit has occurred, wherein the presence of conductive as well as non-conductive objects in said protection area field can be detected.

Claim 2 (Currently amended): Squeeze protecting device arranged to detect the presence of an object in a protection field comprising a housing and an antenna unit connected to a detecting circuit unit, which circuit is arranged to, via said antenna unit, detect capacitive variations in an electric- or electro-magnetic field at said antenna unit, characterised in that said antenna unit comprises a plurality of conductive elements connected to said detecting circuit and that said detecting circuit comprises means connected to said antenna unit arranged to detect a compressive force applied at said housing as a variation of the distance between a first and a second conductive element of the antenna unit, wherein the detection circuit comprises:

a signal generator that provides a signal to the antenna unit that generates the generating means for generating an electric or electro-magnetic field at the antenna unit;

balancing means for maintaining the generated electric or electromagnetic field at the antenna unit in a balanced condition;

filter means for preventing the detecting circuit unit from being affected by variations in temperature and moisture; and

detecting means for detecting small variations in the generated electric or electromagnetic field at the antenna unit and/or detecting a compressive force applied at said housing as a variation of the distance between a first conductive element and a second conductive element of the plurality of conductive elements; and

indication means for indicating that a variation in the electric or electromagnetic field at the antenna unit has occurred, wherein the presence of conductive as well as non-conductive objects in said protection field can be detected.

Claim 3 (Currently amended): Squeeze protecting device according to claim 1 or 2, in combination with claim 1, characterised by that said means of wherein the detecting

circuit detects for detecting a variation of the pressure
~~at the antenna unit is arranged to detect the applied~~
compressive force as a variation of the capacitance at
said antenna unit.

Claim 4 (Original): Squeeze protecting device according
to claim 1, characterised by that said antenna unit
comprises a plurality of conductive elements connected to
said detecting circuit.

Claim 5 (Currently amended): Squeeze protecting device
according to claim 1, wherein 4, or 5, characterised by
~~that said means of the detecting circuit~~ detects for
~~detecting a capacitive variation at the antenna unit is~~
~~arranged to detect the applied compressive force as a~~
variation of the capacitance between a first conductive
element and a second element of the antenna unit.

Claim 6 (Currently amended): Squeeze protecting
devicesqueezing unit according to claim 2, ~~or 3,~~
characterised in that each of said conductive elements of
said antenna unit is connected to said detecting
circuitunit via a relay, wherein said electric or
electromagnetic field can be directed in a desired

direction by switching on or off, respectively, suitable conductive elements of the antenna unit.

Claim 7 (Currently amended): Squeeze protecting device according to ~~claim~~ ~~any one of claims~~ 1-6 or 2, characterised in that said housing comprises a first isolating material and that said antenna unit comprises a second isolating material.

Claim 8 (Original): Squeeze protecting device according to claim 1 or 2, characterised in that said antenna unit has a circular cross section.

Claim 9 (Currently amended): Squeeze protecting device according to ~~claim 1 or 2~~ ~~any one of preceding claims~~, characterised in that masking means is arranged at a grounded object located adjacent to said squeeze protecting device, wherein a detection of said grounded object as a conductive object is avoided.

Claim 10 (Currently amended): Squeeze protecting device according to claim 9, characterised in that said masking means comprises a conductor connected to said detecting ~~circuit~~ ~~unit~~ arranged on the grounded object located adjacent to said squeeze protecting device, wherein the

detection of said grounded object as the[[a]] conductive object is avoided.

Claim 11 (Currently amended): Squeeze protecting device according to claim 9, characterised in that said masking means comprises a conductive element connected to said antenna unit mounted at the grounded object located adjacent to said squeeze protecting device, wherein the detection of said grounded object as the[[a]] conductive object is avoided.

Claim 12 (Currently amended): Method for, at a squeeze protecting device arranged at a door, detecting the presence of an object in a protection field, which squeeze protecting device comprises a housing and an antenna unit connected to a detecting circuit, comprising the step of, via said antenna unit, detecting capacitive variations in an electric or electromagnetic field at said antenna unit, characterised by the steps of:

detecting a variation of the pressure at said antenna unit caused by a compressive force applied to said housing,

generating an electric or electromagnetic field at the antenna unit;

maintaining the generated electric or electromagnetic field at the antenna unit in a balanced condition;

preventing the detecting circuitunit from being affected by variations in temperature and moisture;

detecting small variations in the generated electric or electromagnetic field at the antenna unit; and

indicating that a variation in the electric or electromagnetic field at the antenna unit has occurred,

wherein the presence of conductive as well as non-conductive objects in said protection field can be detected.

Claim 13 (Currently amended): Method for, at a squeeze protecting device arranged at a door, detecting the presence of an object in a protection field, which squeeze protecting device comprises a housing and an antenna unit connected to a detecting circuit, comprising the step of, via said antenna unit, detecting capacitive variations in an electric or electromagnetic field at said antenna unit, characterised by the steps of:

detecting a variation of the distance between a first and a second conductive element of said antenna unit;

~~generating means for generating~~ generating an electric or electromagnetic field at the antenna unit;

maintaining the generated electric or electromagnetic field at the antenna unit in a balanced condition;

preventing the detecting circuitunit from being affected by variations in temperature and moisture;

detecting small variations in the generated electric or electromagnetic field at the antenna unit; and

indicating that a variation in the electric or electromagnetic field at the antenna unit has occurred,

wherein the presence of conductive as well as non-conductive objects in said protection field can be detected.

Claim 14 (Original): Method according to claim 12, characterised by the step of detecting the compressive force applied to said housing as a variation of the distance between a first and a second conductive element of said antenna unit.

Claim 15 (Currently amended): Method according to claim 12 or [,] 13, ~~or~~ 14, characterised by the step of directing said electric or electromagnetic field in a desired direction by switching on or off, respectively, suitable conductive elements.

Claim 16 (Currently amended): Method according to claim
~~12 or 13any one of preceding claims~~, characterised by the
step of masking a grounded object located adjacent to said
squeeze protecting device, wherein a detection of said
grounded object as a conductive object is avoided.

Claim 17 (Currently amended): Method according to claim
16, characterised in that said step of masking comprises
the step of arranging a conductor connected to said
detecting circuitunit on the grounded object located
adjacent to said squeeze protecting device, wherein the
detection of said grounded object as the[[a]] conductive
object is avoided.

Claim 18 (Currently amended): Method according to claim
16, characterised in that said step of masking comprises
the step of mounting a conductive element connected to
said antenna unit at the grounded object located adjacent
to said squeeze protecting device, wherein the detection
of said grounded object as the[[a]] conductive object is
avoided.

Claim 19 (Currently amended): A contact~~Contact~~ rail
provided with the[[a]] squeeze protecting device ~~arranged~~
~~to detect the presence of an object in a protection field~~

~~comprising a housing and an antenna unit connected to a detecting unit, which circuit is arranged to, via said antenna unit, detect capacitive variations in an electric- or electromagnetic field at said antenna unit, characterised by the squeeze protecting device according to claim 1 or 2any one of claims 1-11.~~

Claim 20 (Currently amended): System for detecting the presence of an object in a protection field, comprising a contact rail for mounting at an automatic door and a detecting circuit connected to an antenna unit arranged in said rail, which circuit is arranged to, via said antenna unit, detect capacitive variations in an electric- or electro-magnetic field at said antenna unit, characterised in that said detecting circuit comprises:

~~means connected to said antenna unit arranged to detect a variation of the pressure at said antenna unit caused by compressive force against said housing,~~
a signal generator that provides a signal to the antenna unit that generatesgenerating means for generating the ~~an~~ electric or electro-magnetic field at the antenna unit;

balancing means for maintaining the generated electric or electromagnetic field at the antenna unit in a balanced condition;

filter means for preventing the detecting circuitunit from being affected by variations in temperature and moisture; and

detecting means for detecting small variations in the generated electric or electromagnetic field at the antenna unit and/or a variation of pressure at said antenna unit caused by a compressive force against said rail, and indication means for indicating that a variation in the electric or electromagnetic field at the antenna unit has occurred, wherein the presence of conductive as well as non-conductive objectsebjekt in said protection field can be detected.

Claim 21 (Currently amended): System for detecting the presence of an object in a protection field comprising a contact rail for mounting at an automatic door and a detecting circuit connected to an antenna unit arranged in said rail, which circuit is arranged to, via said antenna unit, detect capacitive variations in an electric- or electro-magnetic field at said antenna unit, characterised in that said antenna unit comprises a plurality of conductive elements connected to said detecting circuit and that said detecting circuit comprises:

~~means connected to said antenna unit arranged to detect a compressive force applied at said housing as a~~

~~variation of the distance between a first and a second conductive element of the antenna unit;~~

a signal generator that provides a signal to the antenna unit that generates~~generating means for generating the~~an electric or electro-magnetic field at the antenna unit;

balancing means for maintaining the generated electric or electromagnetic field at the antenna unit in a balanced condition;

filter means for preventing the detecting circuit~~unit~~from being affected by variations in temperature and moisture; and

detecting means for detecting small variations in the generated electric or electromagnetic field at the antenna unit~~and/or detecting a compressive force applied at said rail as a variation of the distance between a first conductive element and a second conductive element of the plurality of conductive elements;~~and

~~indication means for indicating that a variation in the electric or electromagnetic field at the antenna unit has occurred,~~

wherein the presence of conductive as well as non-conductive~~object~~object in said protection field can be detected.

Claim 22 (Currently amended): System for detecting the presence of an object in a protection field according to claim 20 or 21, comprising ~~a first contact rail according to claim 19 mounted at an automatic door and a second another contact rail that is according to claim 19 mounted on a grounded object located adjacent to said automatic door and that includes another detecting means~~, wherein the detecting means and said another detecting means are synchronized in order to provide identical signals such that a detection of said grounded object as a conductive object is avoided.